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**SAMPLING AND ANALYSIS QUALITY ASSURANCE PROJECT PLAN
SITE ASSESSMENT ACTIVITIES
RARITAN BAY SLAG REMOVAL SITE
OLD BRIDGE, NEW JERSEY**

Prepared for:

**U.S. Environmental Protection Agency
Region 2
New York, New York 10007**

Prepared by:

**Weston Solutions, Inc.
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EPA Contract No. EP-W-06-072

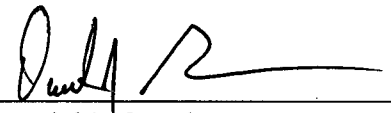
September 2008

Weston Solutions, Inc.
EPA Contract No. EP-W-06-072


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SITE ASSESSMENT ACTIVITIES
RARITAN BAY SLAG SITE
OLD BRIDGE AND SAYREVILLE, NEW JERSEY**

DCN: RST 2 - 02 - F - 0642

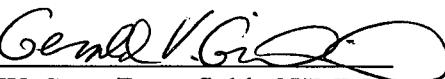
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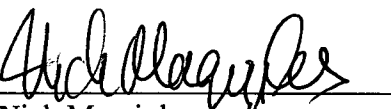
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EPA On Scene Coordinator

Date: 9/9/08

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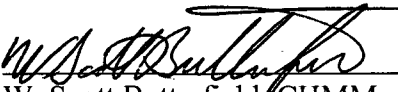
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1.0 INTRODUCTION

Presented herein is the Sampling and Analysis Quality Assurance Project Plan (SAQAPP) for the site assessment field activities to be conducted as part of the Raritan Bay Slag Removal Site investigation by Weston Solufions, Inc. (WESTON®). The site-specific SAQAPP has been developed at the request of the United States Environmental Protection Agency (EPA) in accordance with the EPA Region 2 CERCLA Quality Assurance Manual (October 1989) and the WESTON Quality Assurance Project Plan (QAPP) (December 2005).

The sampling strategy presented in this plan emphasizes the collection of samples required to evaluate certain exposure pathways of interest to the CERCLA Program. The sampling plan includes the following sections: Site Reconnaissance (2.0), Sampling Event and Sampling Procedures (3.0), Quality Assurance/Quality Control (4.0), and Field Changes and Corrective Actions (5.0). Additional quality assurance specifications can be found in the WESTON QAPP (December 2005), which is included by reference.

1.1 Site Description

The Raritan Bay Slag Removal Site (RBS) (CERCLIS ID No. NJN000206276) is approximately 1.3 miles in length and consists of the Old Bridge Waterfront Park located on Raritan Bay, portions of Margaret's Creek, and portions of Cheesequake Creek inlet. During the replacement of a sewer line, fill and battery casings were observed in the Margaret's Creek area. Further investigation found slag deposits along the Old Bridge Waterfront Park. The New Jersey Department of Environmental Protection (NJDEP) split the site into the RBS and the Margaret's Creek Site.

In September 1972, the NJDEP was advised by a local environmental commission member that lead-bearing waste material was being disposed of along the Laurence Harbor beachfront on Raritan Bay. By letter to NJDEP dated December 7, 1972, NL Industries, Inc. (NL) acknowledged that "slag which consists of non-recoverable low yield metallic waste from blast furnace and blast furnace rubble are disposed of by Liberty Trucking Company at their property in Madison Township, Route 35, New Jersey." Madison Township is now known as Old Bridge Township. NL used battery plates from lead/acid storage batteries as the principal feed material for the blast furnace at its plant in Perth Amboy.

The Margaret's Creek portion of the site was proposed for acquisition by the State of New Jersey under the Green Acres Program in 2006. During a preliminary assessment phase of the Green Acres review process, historical aerial photos revealed the filling of approximately 20 acres of the site by 1974.

1.2 Previous Work at the Site

On December 13, 2006, the NJDEP conducted a limited site investigation at RBS to visually characterize fill material via excavation of test pits. Waste materials were evident in numerous locations across the surface of the site, including large quantities of what appeared to be shredded automotive battery casings and refractory brick and slag. On March 14, 2007, the NJDEP collected

soil samples at the Margaret's Creek portion of the site. Lead was detected at concentrations ranging from 701 to 146,000 parts per million (ppm).

On May 23, 2007, NJDEP conducted further soil sampling at the Margaret's Creek and RBS sites. Antimony was detected at concentrations above state criteria, ranging from 17.8 ppm to 12,900 ppm. Arsenic was detected at concentrations ranging from 23.6 ppm to 3,350 ppm. Copper was detected at concentrations ranging from 4.2 ppm to 3,590 ppm. Lead was detected at concentrations ranging from 647 ppm to 142,000 ppm.

On July 24, 2007, NJDEP conducted another round of soil sampling in a preliminary attempt to identify the boundary of contaminated soils in public areas. Thirty-one locations were sampled from the 0-6 inch depth interval in the park area including an expanse of beach east of the footbridge over Margaret's Creek. Analysis of samples collected from the RBS site indicated antimony at concentrations ranging from 0.42 ppm to 20.2 ppm. Arsenic was detected at concentrations ranging from 1.3 ppm to 24.5 ppm. Copper was detected at concentrations ranging from 3.5 ppm to 44 ppm. Lead was detected at concentrations ranging from 3.1 ppm to 545 ppm.

1.3 Schedule

The tentative schedule for the RBS site is:

<u>Activity</u>	<u>Proposed Start Date</u>	<u>End Date</u>
Soil, Sediment, and Surface Water Sampling	September 10, 2008	September 23, 2008
Analysis & Data Validation	September 24, 2008	October 8, 2008
Data Receipt	October 10, 2008	October 10, 2008
Draft Report	October 31, 2008	October 31, 2008

The following personnel are tentatively scheduled to work on this project:

<u>Personnel</u>	<u>Responsibility</u>
Dan Gaughan	Project Manager, Site Health and Safety Officer, Sampler
Scott Snyder	Sample Management Officer (SMO)
Kelli Lucarino	Sampler, Global Positioning System (GPS) data collection
Julissa Morales	Sampler, GPS data collection
Jeff Lynes	Sampler, GPS data collection (alternate)
RST REP	Sampler, GPS data collection
RST REP	Sampler, GPS data collection

2.0 SITE RECONNAISSANCE

On August 21, 2008, representatives of WESTON RST 2 and EPA conducted an on-site reconnaissance of the RBS site. Observations indicate that slag, concrete, and asphalt were utilized as a fill material during the construction of the seawall and jetty. The slag is in direct contact with sand and surface water along the length of the seawall and a portion of the Cheesequake Creek western jetty. The amount of slag at the site could not be determined. During the reconnaissance, people were observed utilizing the beach areas and jetties for sunbathing, swimming, and fishing.

3.0 SAMPLING EVENT AND SAMPLING PROCEDURES

This section outlines overall sample management and control procedures to be implemented by WESTON personnel during field activities. Standard analytical methods, preservation, holding times, and sample containers are summarized in Table 1.

3.1 Sample Tracking System

3.1.1 Sample Identification System

Each sample collected by WESTON will be designated by a site-specific project code. The code for the Raritan Bay Slag Removal Site is RBS. The media type will follow the code. A hyphen will separate the site code and media type. Samples will be collected from Old Bridge Waterfront Park, portions of Margaret's Creek, and portions of Cheesequake Creek inlet.

Specific media types are as follows:

S – Soil	SED - Sediment
SW – Surface Water	RIN - Rinsate

After the media type, sequential sample numbers will be listed; sample numbers will be identified in the field. Designated soil samples will be collected at depth intervals 0 to 2 inches, 6 to 12 inches, and 12 to 18 inches. Samples from the 0- to 2-inch interval will have an 'A' designation; samples from the 6- to 12-inch interval will have a 'B' designation; and samples from the 12- to 18-inch interval will have a 'C' designation. Surface water samples will be analyzed for both TAL metals and dissolved metals. Samples designated for dissolved metals analysis will have a 'D' designation after the sample number. A duplicate sample will be identified in the same manner as other samples and will be distinguished and documented in the field logbook.

3.1.2 Sample Bottles

Sample bottles will be obtained from qualified vendors and will meet all guidelines specified in OSWER Directive 9240.0-05A, Specifications and Guidance for Obtaining Contaminant-Free Sample Containers (December 1992).

3.1.3 Sample Packaging and Shipping

Samples will be packaged and shipped according to the EPA Contract Laboratory Program (CLP) Guidance for Field Samplers (July 2007). Chain of custody forms, sample labels, custody seals, and other sample documents will be completed as specified in the CLP Guidance. All entries will be made in permanent ink. If errors are made when completing any of these forms, the error will be crossed out with a single line, initialed, and dated by the sampler. Each environmental sample will be properly identified and sealed in a polyethylene bag. The bag shall then be placed in a plastic cooler which has also been lined with a large polyethylene bag. Samples will be packed with sufficient ice (sealed in polyethylene bags) to cool the samples to 4°C. Sufficient non-combustible,

adsorbent cushioning material shall be placed in the cooler so as to minimize the possibility of container breakage. The large plastic bag shall then be sealed and the container closed. Custody seals and strapping tape shall then be affixed to the outer packaging. All samples will be shipped via common carrier to the laboratory within 24 hours of collection. Sample shipment will conform to Weston's Manual of Procedures for Shipping & Transporting Dangerous Goods, Section 1, subsections 1.0, 2.0, and 2.1 (Appendix A) and the most current International Air Transport Association (IATA) Dangerous Goods Regulations. Information relating to the shipment of samples, including the airbill number, sample quantity, and sample types, will be reported to the EPA Sample Management Office on the day of or morning after shipment.

3.1.4 Sample Documentation

The sampling team or individual performing the sampling activity will maintain a field logbook. The bound, numbered, and paginated logbook shall be filled out at the location of sample collection immediately after sampling. The logbook shall contain sampling information, including: sample number, sample collection time, sample location, sample descriptions, sampling methods, weather conditions, field measurements, name of sampler, site-specific observations, and any deviations from protocol. All entries will be entered legibly in permanent ink. If errors are made when completing this logbook, the error will be crossed out with a single line, initialed, and dated by the sampling team. WESTON will use GPS to record sample and other site feature locations electronically, and will include a description of the GPS data collection and site identifiers in the field logbook.

3.2 Sampling Program

WESTON will collect soil, sediment, and surface water samples from throughout the site and at appropriate background locations. A total of 109 soil samples, 80 sediment samples, and 50 surface water samples (including six soil, four sediment, and four surface water environmental duplicate samples) will be collected from locations from throughout the site. All samples will be collected to document contamination at the site.

Samples will be collected as follows:

Soil/Sand Samples:

Seawall

Collect samples from five locations biased near/under slag deposits (to be determined in the field). The depth of samples at each location will be 0 to 2 inches, 6 to 12 inches, and 12 to 18 inches. The analytical tests will include TAL metals, including tin, for all samples, and toxicity characteristic leaching procedure (TCLP) metals for all 0- to 2-inch samples. WESTON will also collect split samples of three of the 0- to 2-inch samples, to be analyzed by EPA's Environmental Response Team (ERT) for some type of speciation (possibly X-ray diffraction).

Jetty

Collect samples from two locations biased near/under slag deposits (to be determined in the field). The depth of samples at each location will be 0 to 2

inches, 6 to 12 inches, and 12 to 18 inches. The analytical tests will include TAL metals, including tin, for all samples, and TCLP metals for all 0- to 2-inch samples. WESTON will also collect split samples of three of the 0- to 2-inch samples, to be analyzed by ERT for some type of speciation (possibly X-ray diffraction).

Beach

Area between the seawall and first jetty

Set up four transects parallel to the shoreline, from the edge of the beach heading inland (the first three will have 50-foot intervals between them and the last one will have an interval of 100 feet, to be determined in the field), combined with four transects parallel to the first jetty (100-foot intervals). This results in 16 sample locations in this area. The depth of the samples will be 0 to 2 inches. Two of the locations, closest to the seawall will have samples collected at 6 to 12 inches and 12 to 18 inches. The analytical tests will include TAL Metals, including tin, for all samples.

Area between the first and second jetty

Collect samples from ten locations throughout the area on the beach, biased towards the area where the tide deposits debris on the beach (to be determined in the field). The depth of the samples will be 0 to 2 inches. The analytical tests will include TAL Metals, including tin, for all samples.

Area between third jetty and Cheesequake Creek inlet eastern jetty

Set up two transects parallel to the shoreline, on the western 750-foot portion of the beach as measured from the Cheesequake Creek inlet eastern jetty. The first transect will be near the water and the second will be 50 feet inland (to be determined in the field). Collect samples at 100-foot intervals along the transects. The depth of the samples will be 0 to 2 inches. The analytical tests will include TAL Metals, including tin, for all samples.

Area along the Cheesequake Creek inlet, south of the eastern jetty

Set up one transect parallel to the inlet with samples collected at 50-foot intervals (to be determined in the field). The depth of the samples will be 0 to 2 inches. The analytical tests will include TAL Metals, including tin, for all samples.

Area west of the Cheesequake Creek inlet, west of the western jetty

Collect samples from two locations biased near/under slag deposits (to be determined in the field). The depth of samples at each location will be 0 to 2 inches, 6 to 12 inches, and 12 to 18 inches. The analytical tests will include TAL metals, including tin, for all samples, and TCLP metals for all 0- to 2-inch samples. WESTON will also collect split samples of one of the 0- to 2-inch samples, to be analyzed by ERT for some type of speciation (possibly X-ray diffraction).

Park Area

Collect samples from ten locations throughout the park area (to be determined in the field), biased towards areas that appear to be frequented (e.g., worn pathways in grass or trampled vegetation) or appear to potentially

represent flow paths. The depth of the samples will be 0 to 2 inches. The analytical tests will include TAL Metals, including tin, for all samples.

Playground

Woodchips/mulch

Collect samples from five locations throughout the playground area (to be determined in the field). The depth of the samples will be 0 to 2 inches. The analytical tests will include TAL Metals, including tin, for all samples.

Soil

Collect samples from ten locations throughout the playground area (to be determined in the field). The depth of the samples will be 0 to 2 inches below the woodchips/mulch. The analytical tests will include TAL Metals, including tin, for all samples.

Sediment Samples:

Raritan Bay

Area between Margaret's Creek and western end of seawall

Set up two transects parallel to and following the contour of the seawall. The first transect will be approximately 25 to 50 feet (to be determined in the field) from the base of the seawall. The second transect will be at a 50-foot interval beyond the first transect. Collect samples at 200-foot intervals along each transect during low tide. The depth of the samples will be 0 to 3 inches. The analytical tests will include TAL Metals, including tin, and grain size distribution for all samples.

Area between the western end of the seawall and the first jetty

Set up three transects parallel to and following the contour of the beach (using the same transect as in front of the seawall). The first transect will be approximately 25 to 50 feet (to be determined in the field) from the edge of the dry beach. The second transect will be at a 50-foot interval beyond the first transect. The third transect will be at a 50-foot interval beyond the second transect. Collect samples at 100-foot intervals along each transect during low tide. The depth of the samples will be 0 to 3 inches. The analytical tests will include TAL Metals, including tin, and grain size distribution for all samples.

Area between the third jetty and Cheesequake Creek inlet eastern jetty

Set up two transects parallel to and following the contour of the waterfront on the western 750-foot portion of the beach, as measured from Cheesequake Creek inlet eastern jetty. The first transect will be approximately 25 to 50 feet (to be determined in the field) from the edge of the beach. The second transect will be at a 25- to 50-foot interval beyond the first transect (to be determined in the field). Collect samples at 100-foot intervals along each transect during low tide. The depth of the samples will be 0 to 3 inches. The analytical tests will include TAL Metals, including tin, and grain size distribution for all samples.

Cheesequake Creek inlet area

Collect samples from three locations during low tide near the western jetty (locations to be determined in the field, including possibly an upstream location). The analytical tests will include TAL Metals, including tin, and grain size distribution for all samples.

Area west of the Cheesequake Creek inlet, west of the western jetty

Set up two transects parallel to the and following the contour of the waterfront for approximately 400 feet, as measured west from the Cheesequake Creek inlet western jetty. The first transect will be approximately 25 to 50 feet (to be determined in the field) from the edge of the dry beach. The second transect will be at a 25- to 50-foot interval beyond the first transect (to be determined in the field). Collect samples at 100-foot intervals along each transect during low tide. The depth of the samples will be 0 to 3 inches. The analytical tests will include TAL Metals, including tin, and grain size distribution for all samples.

Margaret's Creek

Collect samples from four locations: two north of the footbridge that crosses the creek and two south of the footbridge (locations to be determined in the field). One of the latter locations will be upgradient of the seawall as it wraps around the southeast end of the Waterfront Park. The depth of the samples will be 0 to 3 inches. The analytical tests will include TAL Metals, including tin, and grain size distribution for all samples.

Background locations east of Margaret's Creek

Set up two transects parallel to and following the contour of the waterfront for approximately 200 feet. The first transect will be approximately 25 to 50 feet (to be determined in the field) from the edge of the dry beach. The second transect will be at a 25- to 50-foot interval beyond the first transect (to be determined in the field). Collect samples at 100-foot intervals along each transect during low tide. The depth of the samples will be 0 to 3 inches. The analytical tests will include TAL Metals, including tin, and grain size distribution for all samples.

Surface Water Samples:

Raritan Bay

Seawall

Collect samples from five locations (locations and tidal conditions to be determined in the field) and two locations during high tide near the slag (locations to be determined in the field). The analytical tests will include TAL Metals (both total and dissolved), including tin, for all samples.

Area between the western end of seawall and the first jetty

Collect three activity-based samples (locations and tidal conditions to be determined in the field). The analytical tests will include TAL Metals (both total and dissolved), including tin, for all samples.

Area between the third jetty and Cheesequake Creek inlet eastern jetty

Collect three activity-based samples (locations and tidal conditions to be determined in the field). The analytical tests will include TAL Metals (both total and dissolved), including tin, for all samples.

Area west of the Cheesequake Creek inlet, west of the western jetty

Collect samples from two locations (locations and tidal conditions to be determined in the field). The analytical tests will include TAL Metals (both total and dissolved), including tin, for all samples.

Margaret's Creek

Collect samples from two locations during low tide: one north of the footbridge that crosses the creek and one south of the footbridge (locations to be determined in the field). The latter location will be upgradient of the seawall as it wraps around the southeast end of the Waterfront Park. The analytical tests will include TAL Metals (both total and dissolved), including tin, for all samples.

Cheesequake Creek inlet area

Collect samples from three locations during low tide near the western jetty (locations to be determined in the field, including possibly an upstream location). The analytical tests will include TAL Metals (both total and dissolved, including tin for all samples.

Samples to be collected for quality assurance/quality control (QA/QC) purposes in conjunction with the soil, sediment, and surface water samples include six soil, four sediment, and two surface water environmental duplicate samples. One of every twenty field samples for each matrix will be designated as a Matrix Spike/Matrix Spike Duplicate (MS/MSD). Rinsate blank samples will be collected to demonstrate that the decontaminated stainless-steel augers and dedicated, disposable plastic scoops and trays are free of contamination. Soil, sediment, and surface water sampling locations will be recorded using GPS technology in accordance with EPA Region 2 Standard Operating Procedures. Site-specific sample analyses, bottle types, and preservatives are presented in Table 1. A description of proposed site-specific samples, including the rationale for the collection of each sample, is presented in Table 2. Table 3 contains a list of the number of bottles for each sample, analyses to be performed, preservation methods, and descriptions. Additional samples may be collected if deemed necessary while in the field. Samples will be designated for analysis of Target Analyte List (TAL) Metals, Dissolved Metals, TCLP Metals, and Grain size distribution via implementation of the Field and Analytical Services Teaming Advisory Committee (FASTAC) analytical services strategy, in accordance with SOP No. HW-32: Standard Operating Procedure for Implementing the National Strategy for Procuring Analytical Services for All OSWER Programs, Revision 5 (EPA Region 2, March 2005). The Region 2 FASTAC strategy requires coordination of all analytical services through the Regional Sample Control Coordinator (RSCC).

The following laboratories will provide the following analyses:

<u>Lab Name/Location</u>	<u>Sample Type</u>	<u>Parameters</u>
Inorganic CLP Lab - TBD ¹	Soil and Sediment	TAL Metals including tin, TCLP Metals, Dissolved Metals, Grain size distribution (14-day turnaround to EPA)
Inorganic CLP Lab - TBD ¹	Aqueous	TAL Metals including tin, (14-day turnaround to EPA)

1) TBD - To be determined

Listed below are standard operating procedures which will be adhered to during field sampling activities conducted by WESTON.

3.2.1 Soil Sampling

The following procedures apply to the collection of surface soil (depth: 0 to 2 inches) using a dedicated plastic scoop:

1. Wear protective gear as specified in the Health and Safety Plan. Samplers shall don new outer sampling gloves prior to sampling at each location.
2. Use a dedicated plastic scoop to scrape away surficial organic material (grass, leaves, etc.) and remove the top layer of vegetation/soil/fill material.
3. Obtain the soil and transfer it into a dedicated plastic tray using a dedicated plastic scoop.
4. Homogenize soil in the plastic tray using the plastic scoop. Homogenization shall be completed per the following procedure:

The soil in the dedicated plastic tray will be scraped from the sides, corners and bottom of the tray, rolled to the middle of the tray, and mixed. The soil will then be quartered and moved to the four corners of the tray. Each quarter will then be mixed individually, and when completed be rolled to the center of the tray and mixed once again.

5. Transfer the homogenized soil into the required sample containers using the dedicated plastic scoop. If there is remaining soil that will not be used for laboratory analysis, discard it at the sampling location.
6. Place samples in cooler and chill with ice. Samples will be hand-delivered or shipped within 24 hours of collection to the designated laboratory(ies).

7. Fill out field logbook, custody seals, sample labels, and chain of custody forms.

The following procedures apply to the collection of surface soil (depth: 6" to 18") using decontaminated, stainless-steel augers and dedicated, disposable plastic scoops:

- 1) Wear protective gear as specified in the Health and Safety Plan. Samplers shall don new outer sampling gloves prior to sampling at each location.
- 2) Obtain the soil sample by augering soil from the location of the previously collected 0- to 2-inch sample to the required depth below the surface.
- 3) Empty contents of the auger into a dedicated, disposable plastic tray. Repeat steps 3 and 4 until enough soil is collected to fill required sample containers.
- 4) Homogenize soil in the plastic tray using the dedicated, disposable plastic scoop. Homogenization shall be completed per the following procedure:

The soil in the plastic tray will be scraped from the sides, corners and bottom of the tray, rolled to the middle of the tray, and mixed. The soil will then be quartered and moved to the four corners of the tray. Each quarter will then be mixed individually and when completed be rolled to the center of the tray and mixed once again.

- 5) Transfer the homogenized soil into the required sample containers.
- 6) If there is remaining soil that will not be used for laboratory analysis, discard it at the sampling location.
- 7) Place samples in cooler and chill with ice. Samples will be hand-delivered or shipped within 24 hours of collection to the designated laboratory(ies).
- 8) Fill out field logbook, custody seals, sample labels, and chain of custody forms.

WESTON does not plan to collect subsurface soil samples (depth > 2') during the RBS sampling event.

3.2.2 Sediment Sampling

The following procedures apply to the collection of sediment (depth: 0 - 3") using dedicated, disposable plastic scoops and plastic trays:

- 1) Wear protective gear as specified in the Health and Safety Plan. Samplers shall don new outer gloves prior to sampling at each location.

- 2) Obtain the sediment sample using a dedicated, disposable plastic scoop from the surface to 3 inches below the surface, allowing any excess surface water to drain from the sampling device.
- 3) Empty contents of the scoop into a dedicated plastic tray. Repeat steps 2 and 3 until enough sediment is collected to fill required containers.
- 4) Homogenize the sediment in the aluminum tray using the dedicated plastic scoop. Homogenization shall be completed per the following procedure:

The sediment in the dedicated plastic tray will be scraped from the sides, corners and bottom of the tray, rolled to the middle of the tray, and mixed. The sediment will then be quartered and moved to the four corners of the tray. Each quarter will then be mixed individually and when completed be rolled to the center of the tray and mixed once again.
- 5) Transfer the homogenized sediment into the required sample containers.
- 6) If there is remaining sediment that will not be used for laboratory analysis, discard it at the sampling location.
- 7) Place analytical samples in cooler and chill with ice. Samples will be hand-delivered or shipped within 24 hours of collection to the designated laboratory(ies).
- 8) Fill out field logbook, custody seals, sample labels, and TR/COC forms.

3.2.3 Surface Water Sampling

The following procedures apply to the collection of surface water:

- 1) Wear protective gear as specified in the Health and Safety Plan. Samplers shall don new outer sampling gloves prior to sampling at each location.
- 2) The following sampling equipment and methods may be used to collect samples:
 - a) direct method
 - b) stainless-steel or dedicated Teflon scoop
 - c) glass or stainless-steel beaker clamped to a sampling pole (if necessary)
 - d) Kemmerer bottle
 - e) bacon bomb sampler
 - f) dip sampler

WESTON plans to collect surface water samples directly into the required containers, without the use of sampling devices. If equipment is deemed

necessary, sampling devices will be decontaminated prior to each use or will be dedicated to a single sample location.

- 3) Surface water samples shall be collected moving in an upstream direction if necessary. Submerge the bottle, scoop or beaker and collect a sample.
- 4) The preservation procedure shall be as follows:
 - a) VOCs – Not applicable for the RBS project.
 - b) Other Parameters - Fill each container and preserve immediately as required in Table 3. When adjusting the pH for sample preservation, pour a minimal portion of sample onto broad range pH paper to verify if the appropriate pH level has been obtained.
- 5) Place samples in cooler and chill with ice. Samples will be hand-delivered or shipped within 24 hours of collection to the designated laboratory(ies).
- 6) Fill out field logbook, sample labels, custody seals, and TR/COC forms.

3.3 Decontamination

As detailed in the previous sections, all stainless-steel equipment involved in field sampling activities will be decontaminated prior to and subsequent to sampling. Decontamination of sampling equipment will be kept to a minimum in the field and whenever possible dedicated sampling equipment will be used. Decontamination of sampling equipment including stainless-steel augers will be conducted as follows:

- 1) Alconox detergent and tap water scrub to remove visual contamination,
- 2) Generous tap water rinse,
- 3) A 10% nitric acid rinse (ultra pure grade) when sampling for inorganic parameters,
- 4) Distilled and deionized (ASTM Type II) water rinse, and
- 5) Wrap or cover exposed ends of sampling equipment with aluminum foil (shiny side out) for transport and handling.

Decontamination will be carried out over a container. Acid solutions will be neutralized using baking soda. Care will be taken to generate as little decontamination fluid as possible. The material generated by decontamination will be applied directly to the ground surface at an area of slag and allowed to percolate into the ground, in accordance with the NJDEP *Field Sampling Procedures Manual* and EPA's *Guidance for Performing Site Inspections under CERCLA*.

The dedicated, disposable plastic scoops and trays that will be utilized for collection, homogenization, and transfer of soil and sediment samples do not require decontamination. After sampling and transferring extra soil/sediment back to the sampling locations, WESTON will place the used disposable equipment in garbage bags and discard it off-site as municipal waste.

4.0 QUALITY ASSURANCE/QUALITY CONTROL

This section details the Quality Assurance/Quality Control (QA/QC) requirements for field activities performed during the sampling effort.

4.1 Field Instrument Calibration and Preventive Maintenance

The sampling team is responsible for assuring that a master calibration/maintenance log will be brought into the field and maintained for each measuring device. Each log will include at a minimum, where applicable:

- name of device and/or instrument calibrated
- device/instrument serial and/or ID number
- frequency of calibration
- date of calibration
- results of calibration
- name of person performing the calibration
- identification of the calibrant (PID, FID, pH meter)

Equipment to be used each day shall be calibrated prior to the commencement of daily activities.

4.2 QA/QC Sample Collection

This section describes the QA/QC samples that will be collected by the WESTON field team as part of the sampling effort. A summary by sample number for analysis, bottle type, and preservation is presented in Table 3.

4.2.1 Trip Blanks

Trip blank samples will not be collected during the RBS sampling event.

4.2.2 Field Rinsate Blanks

A field rinsate blank will consist of DI, demonstrated analyte-free water that has been poured over decontaminated sampling equipment. The field rinsate blank analytical results will be utilized in the evaluation of potential cross contamination resulting from inadequate decontamination. The frequency of field rinsate blank collection is one blank per decontamination event per type of equipment, not to exceed more than one per day. For the purposes of sampling associated with pre-remedial field activities, field rinsate blank collection will not exceed a total of four samples. Blanks will be collected for all parameters of interest (excluding physical parameters) and shipped with the samples collected the same day.

Field rinsate blanks will be collected in accordance with the procedure listed below:

- 1) Decontaminate sampling equipment using the procedure specified in Section 3.4 of this

plan.

- 2) Pour DI water over the sampling device and collect the rinsate in the appropriate sample containers.
- 3) Preserve samples as specified in Table 3 of this plan. Test pH by pouring a small portion of sample on broad range pH paper over a collection bowl. Place samples in cooler.
- 4) Complete sample labels, custody seals, and chain of custody forms. Record in field logbook.

4.2.3 Deionized Water Blanks

The distilled DI water utilized for the trip and field blanks will be certified as such. A copy of this certificate will be kept on site and another in the site-specific project file. The criteria to be demonstrated as analyte-free will be consistent with that specified in the EPA Region 2 CERCLA Quality Assurance Manual (October 1989), and is as follows:

Purgeable organics < 10 ppb
Semi-volatile organics < CRQL
Pesticides/PCBs < CRQL
Metals < CRDL

where the CRQL is represented by the Contract Required Quantitation Limits and the CRDL is represented by the Contract Required Detection Limits in the most recent CLP Statements of Work. For specific common laboratory contaminants such as methylene chloride, acetone, toluene, 2-butanone and phthalates, the allowable limits are three times the respective CRQLs.

4.2.4 Duplicate Samples

Duplicate samples will be sent for laboratory analysis to evaluate the ability of reproducing the sampling methods. At a minimum, a rate of one duplicate sample per 20 samples, or one duplicate sample per batch of less than 20 samples, will be obtained for each matrix. For the purpose of site assessment projects, soil and sediment matrices will be considered as the same matrix. In addition, a minimum of one MS/MSD sample per matrix will be collected per 20 samples, or one MS/MSD sample per matrix per batch of less than 20 samples.

4.2.5 Split Samples

Splitting of samples will be conducted upon request when the site owner/operator or potentially responsible party (PRP) wishes to ensure that sample results generated by WESTON are accurate. WESTON is not responsible for supplying the necessary amount of sample containers for the site owner/operator. It is not necessary to assess the site owner/operator laboratory performance or laboratory methods used, although the methods should be of equivalent performance. The site owner/operator will be informed that split samples are to be analyzed at their own expense.

4.2.6 Background Samples

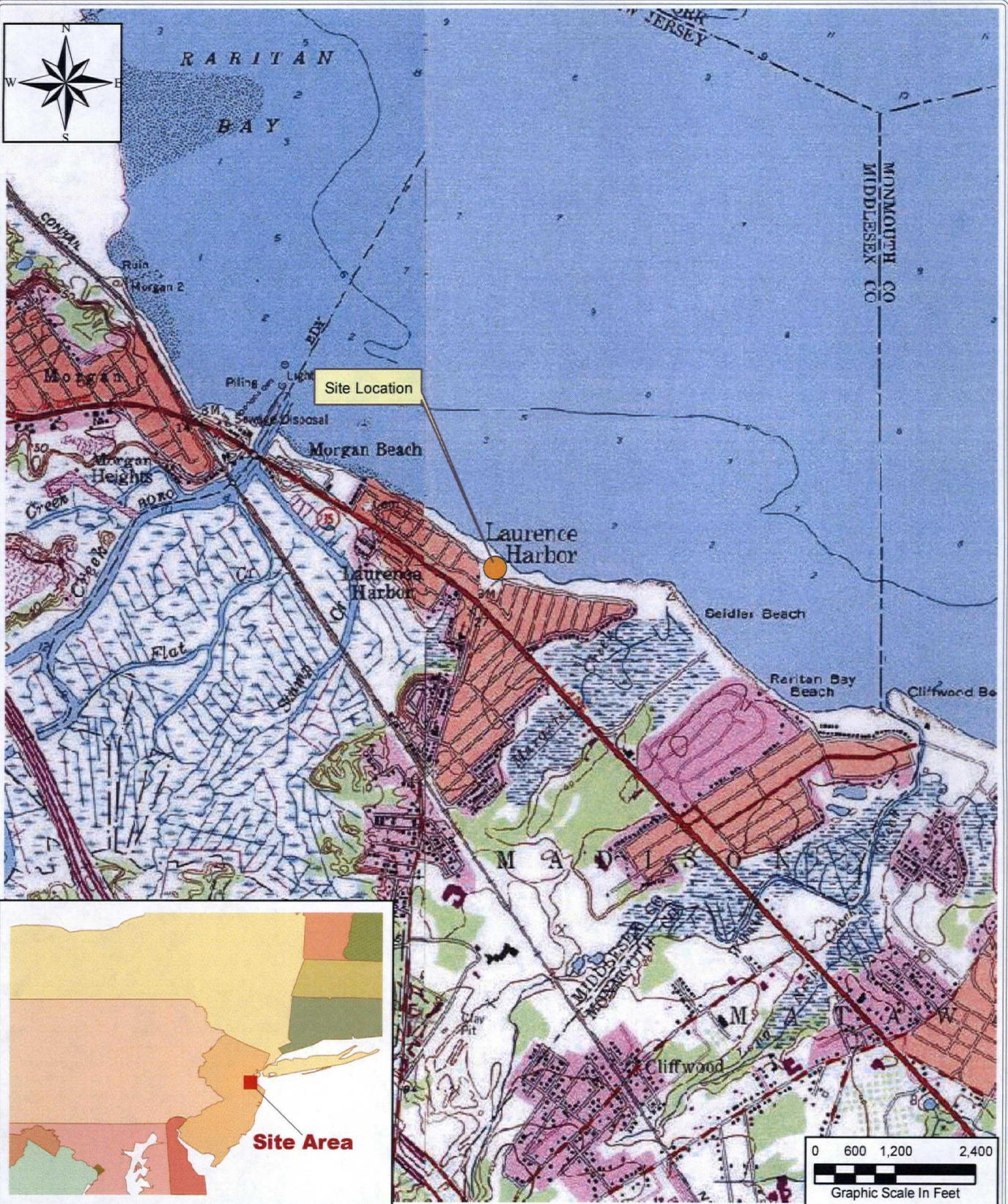
In order to accurately assess any potential contamination on the site, background samples for each pathway matrix of concern will be collected. The analysis of each sample will be equal to those specified for the environmental samples. For the purposes of site assessment projects, background samples will be collected from locations not suspected to be affected by site activities; selection of the background sample locations will be based on field observation, available site information, and the professional judgement of the sampling team.

4.2.7 Data Validation

Analytical results obtained through the CLP and/or the EPA Division of Environmental Science and Assessment (DESA) will be validated in accordance with the most current EPA Region 2 data validation guidelines under a separate EPA contract.

5.0 FIELD CHANGES AND CORRECTIVE ACTIONS

The WESTON Project Manager (PM) or his/her designee may be required to modify generic site procedures to accommodate site-specific needs or unforeseeable events. In the event it becomes necessary to modify a procedure, the PM will notify the EPA Region 2 OSC. Deviations from the Field Sampling Plan will be documented in the field logbook and signed by the initiator and the PM.



LEGEND:

- Site Location

National Geographic TOPO! U.S. Geologic Survey (USGS), 7.5 Minute Series (Topographic) Quadrangles: Keyport, NJ, 1977 and South Amboy, NJ, 1995.

PROJECT:

Raritan Bay Slag

CLIENT NAME:

EPA

TITLE:

Site Location Map
Raritan Bay Slag
Laurence Harbor, NJ

WESTON
SOLUTIONS

DATE:

August 2008

FIGURE #:

1

TABLES

TABLE 1
CLP ROUTINE ANALYTICAL SERVICES
RARITAN BAY SLAG SITE

Sample Type	Number of Samples	Matrix	Sampling Device	Sample Container ⁽¹⁾	Sample Preservation	Technical Holding Time ⁽²⁾	CLP Laboratory Analyses ⁽³⁾
Soil	104 (including 6 duplicates)	Soil (Low Concentration)	Dedicated, disposable plastic scoop and plastic tray or stainless-steel auger	One 8-oz. wide-mouth glass jar	Cool to 4°C	6 months to analyze	TAL Metals + Sn CLP SOW ILM05.4 (low-medium concentrations)
Mulch/Soil	5 (including 1 duplicate)	Mulch/Soil (Low Concentration)		One 8-oz. wide-mouth glass jar	Cool to 4°C	6 months to analyze	TAL Metals + Sn CLP SOW ILM05.4 (low-medium concentrations)
Soil	25 (including 2 duplicates)	Soil (Medium Concentration)		One 8-oz. wide-mouth glass jar	Cool to 4°C	6 months to analyze	TAL Metals + Sn CLP SOW ILM05.4 (medium concentrations)
Sediment	80 (including 4 duplicates)	Sediment (Low Concentration)		One 8-oz. wide-mouth glass jar	Cool to 4°C	6 months to analyze	TAL Metals + Sn CLP SOW ILM05.4 (low-medium concentrations)
Sediment	78	Soil (Low Concentration)		One 16-oz. wide-mouth glass jar	Cool to 4°C	None	Grain-size distribution ASTM 422D-63
Soil	9	Soil		One 8-oz. wide-mouth glass jar	Cool to 4°C	6 months to analyze	TCLP Metals (SW-846 6010B)
Surface Water	48 (including three duplicates)	Aqueous (Low-Medium Concentration)	N/A	One-liter polyethylene bottle	HNO ₃ to pH <2	6 months to analyze	TAL Metals + Sn and Dissolved Metals CLP SOW ILM05.4 (low-medium concentrations)
Rinsate Blank	4	Aqueous (Low-Medium Concentration)	N/A	One-liter polyethylene bottle	HNO ₃ to pH <2	6 months to analyze	TAL Metals + Sn CLP SOW ILM05.4 (low-medium concentrations)

⁽¹⁾ = Sample containers are certified clean by the manufacturer.

⁽²⁾ = Technical holding times are calculated from the date of sample collection.

⁽³⁾ = Contract Laboratory Program (CLP) Statements of Work (SOW) for Inorganic Analysis SOW ILM05.4 (low/medium concentrations) or most current revisions.

TABLE 2
SAMPLE DESCRIPTIONS/RATIONALE
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	DESCRIPTION/RATIONALE
RBS-S01A MS/MSD	Soil sample collected from the Seawall to document level of contamination; depth 0-2 inches.
RBS-S01B	Soil sample collected from the Seawall to document level of contamination; depth 6-12 in.
RBS-S01C	Soil sample collected from the Seawall to document level of contamination; depth 12-18 in.
RBS-S02A	Soil sample collected from the Seawall to document level of contamination; depth 0-2 in.
RBS-S02B	Soil sample collected from the Seawall to document level of contamination; depth 6-12 in.
RBS-S02C	Soil sample collected from the Seawall to document level of contamination; depth 12-18 in.
RBS-S03A	Soil sample collected from the Seawall to document level of contamination; depth 0-2 in.
RBS-S03B	Soil sample collected from the Seawall to document level of contamination; depth 6-12 in.
RBS-S03C	Soil sample collected from the Seawall to document level of contamination; depth 12-18 in.
RBS-S04A	Soil sample collected from the Seawall to document level of contamination; depth 0-2 in.
RBS-S04B	Soil sample collected from the Seawall to document level of contamination; depth 6-12 in.
RBS-S04C	Soil sample collected from the Seawall to document level of contamination; depth 12-18 in.
RBS-S05A	Soil sample collected from the Seawall to document level of contamination; depth 0-2 in.
RBS-S05B	Soil sample collected from the Seawall to document level of contamination; depth 6-12 in.
RBS-S05C	Soil sample collected from the Seawall to document level of contamination; depth 12-18 in.
RBS-S06A	Duplicate of sample RBS-S05A for QA/QC purposes.
RBS-S07A	Soil sample collected from the Jetty to document level of contamination; depth 0-2 in.
RBS-S07B	Soil sample collected from the Jetty to document level of contamination; depth 6-12 in.
RBS-S07C	Soil sample collected from the Jetty to document level of contamination; depth 12-18 in.
RBS-S08A	Soil sample collected from the Jetty to document level of contamination; depth 0-2 in.
RBS-S08B MS/MSD	Soil sample collected from the Jetty to document level of contamination; depth 6-12 in.
RBS-S08C	Soil sample collected from the Jetty to document level of contamination; depth 12-18 in.
RBS-S09A	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S09B	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 6-12 in.
RBS-S09C	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 12-18 in.
RBS-S10A	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S10B	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 6-12 in.
RBS-S10C	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 12-18 in.
RBS-S11	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S12	Duplicate of sample RBS-S11 for QA/QC purposes.
RBS-S13	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S14	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S15	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S16	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S17	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.

TABLE 2 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	DESCRIPTION/RATIONALE
RBS-S18	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S19	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S20	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S21	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S22	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S23 MS/MSD	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S24	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S25	Soil sample collected from the area between the seawall and the first jetty to document level of contamination; depth 0-2 in.
RBS-S26	Duplicate of sample RBS-S25 for QA/QC purposes.
RBS-S27	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S28	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S29	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S30	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S31	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S32	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S33	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S34	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S35	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S36	Soil sample collected from the area between the first jetty and the second jetty to document level of contamination; depth 0-2 in.
RBS-S37	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S38	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S39	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S40	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S41	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S42	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.

TABLE 2 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	DESCRIPTION/RATIONALE
RBS-S43 MS/MSD	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S44	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S45	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S46	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S47	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S48	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S49	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S50	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S51	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S52	Soil sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-2 in.
RBS-S53	Duplicate of sample RBS-S52 for QA/QC purposes.
RBS-S54	Soil sample collected from the area along the Cheesequake Creek inlet, south of the eastern jetty to document level of contamination; depth 0-2 in.
RBS-S55	Soil sample collected from the area along the Cheesequake Creek inlet, south of the eastern jetty to document level of contamination; depth 0-2 in.
RBS-S56	Soil sample collected from the area along the Cheesequake Creek inlet, south of the eastern jetty to document level of contamination; depth 0-2 in.
RBS-S57	Soil sample collected from the area along the Cheesequake Creek inlet, south of the eastern jetty to document level of contamination; depth 0-2 in.
RBS-S58	Soil sample collected from the area along the Cheesequake Creek inlet, south of the eastern jetty to document level of contamination; depth 0-2 in.
RBS-S59A	Soil sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-2 in.
RBS-S59B	Soil sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 6-12 in.
RBS-S59C	Soil sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 12-18 in.
RBS-S60A	Soil sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-2 in.
RBS-S60B MS/MSD	Soil sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 6-12 in.
RBS-S60C	Soil sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 12-18 in.
RBS-S61	Soil sample collected from the park area to document level of contamination; depth 0-2 in.
RBS-S62	Soil sample collected from the park area to document level of contamination; depth 0-2 in.
RBS-S63	Soil sample collected from the park area to document level of contamination; depth 0-2 in.
RBS-S64	Soil sample collected from the park area to document level of contamination; depth 0-2 in.
RBS-S65	Soil sample collected from the park area to document level of contamination; depth 0-2 in.
RBS-S66	Soil sample collected from the park area to document level of contamination; depth 0-2 in.
RBS-S67	Soil sample collected from the park area to document level of contamination; depth 0-2 in.

TABLE 2 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	DESCRIPTION/RATIONALE
RBS-S68	Soil sample collected from the park area to document level of contamination; depth 0-2 in.
RBS-S69	Soil sample collected from the park area to document level of contamination; depth 0-2 in.
RBS-S70	Soil sample collected from the park area to document level of contamination; depth 0-2 in.
RBS-S71	Mulch/woodchip sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S72	Duplicate of sample RBS-71 for QA/QC purposes.
RBS-S73	Mulch/woodchip sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S74	Mulch/woodchip sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S75	Mulch/woodchip sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S76	Mulch/woodchip sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S77	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S78	Duplicate of sample RBS-77 for QA/QC purposes.
RBS-S79 MS/MSD	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S80	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S81	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S82	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S83	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S84	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S85	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S86	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-S87	Soil sample collected from the playground to document level of contamination; depth 0-2 in.
RBS-SED01	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED02	Duplicate of sample RBS-SED01 for QA/QC purposes.
RBS-SED03	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED04	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED05	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED06	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED07	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED08	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED09	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED10	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED11	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED12 MS/MSD	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.

TABLE 2 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	DESCRIPTION/RATIONALE
RBS-SED13	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED14	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED15	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED16	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED17	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED18	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED19	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED20	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED21	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED22	Duplicate of sample RBS-SED21 for QA/QC purposes.
RBS-SED23	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED24	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED25	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED26	Sediment sample collected from the area between Margaret's Creek and the western end of the seawall to document level of contamination; depth 0-3 in.
RBS-SED27	Sediment sample collected from the area between the western end of the seawall and the first jetty to document level of contamination; depth 0-3 in.
RBS-SED28	Sediment sample collected from the area between the western end of the seawall and the first jetty to document level of contamination; depth 0-3 in.
RBS-SED29	Sediment sample collected from the area between the western end of the seawall and the first jetty to document level of contamination; depth 0-3 in.
RBS-SED30	Sediment sample collected from the area between the western end of the seawall and the first jetty to document level of contamination; depth 0-3 in.
RBS-SED31	Sediment sample collected from the area between the western end of the seawall and the first jetty to document level of contamination; depth 0-3 in.
RBS-SED32 MS/MSD	Sediment sample collected from the area between the western end of the seawall and the first jetty to document level of contamination; depth 0-3 in.
RBS-SED33	Sediment sample collected from the area between the western end of the seawall and the first jetty to document level of contamination; depth 0-3 in.
RBS-SED34	Sediment sample collected from the area between the western end of the seawall and the first jetty to document level of contamination; depth 0-3 in.
RBS-SED35	Sediment sample collected from the area between the western end of the seawall and the first jetty to document level of contamination; depth 0-3 in.
RBS-SED36	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED37	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.

TABLE 2 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	DESCRIPTION/RATIONALE
RBS-SED38	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED39	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED40	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED41	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED42	Duplicate of sample RBS-SED41 for QA/QC purposes.
RBS-SED43	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED44	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED45	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED46	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED47	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED48	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED49	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED50	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED51	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED52 MS/MSD	Sediment sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination; depth 0-3 in.
RBS-SED53	Sediment sample collected from the Cheesequake Creek inlet area to document level of contamination; depth 0-3 in.
RBS-SED54	Sediment sample collected from the Cheesequake Creek inlet area to document level of contamination; depth 0-3 in.
RBS-SED55	Sediment sample collected from the Cheesequake Creek inlet area to document level of contamination; depth 0-3 in.
RBS-SED56	Sediment sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-3 in.
RBS-SED57	Sediment sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-3 in.
RBS-SED58	Sediment sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-3 in.
RBS-SED59	Sediment sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-3 in.
RBS-SED60	Sediment sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-3 in.
RBS-SED61	Sediment sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-3 in.
RBS-SED62	Duplicate of sample RBS-SED61 for QA/QC purposes.

TABLE 2 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	DESCRIPTION/RATIONALE
RBS-SED63	Sediment sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-3 in.
RBS-SED64	Sediment sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination; depth 0-3 in.
RBS-SED65	Sediment sample collected from Margaret's Creek north of the footbridge to document level of contamination; depth 0-3 in.
RBS-SED66	Sediment sample collected from Margaret's Creek north of the footbridge to document level of contamination; depth 0-3 in.
RBS-SED67	Sediment sample collected from Margaret's Creek south of the footbridge to document level of contamination; depth 0-3 in.
RBS-SED68	Sediment sample collected from Margaret's Creek south of the footbridge to document level of contamination; depth 0-3 in.
RBS-SED69	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED70	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED71	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED72 MS/MSD	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED73	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED74	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED75	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED76	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED77	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED78	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED79	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SED80	Background sediment sample collected from an area suspected not to be influenced by past site activities; depth 0-3 in.
RBS-SW01	Surface water sample collected from the seawall at low tide to document level of contamination.
RBS-SW01D	Surface water sample collected from the seawall at low tide to document level of contamination.
RBS-SW02	Duplicate of sample RBS-SW01 for QA/QC purposes.
RBS-SW02D	Duplicate of sample RBS-SW01D for QA/QC purposes.
RBS-SW03	Surface water sample collected from the seawall at low tide to document level of contamination.
RBS-SW03D	Surface water sample collected from the seawall at low tide to document level of contamination.
RBS-SW04	Surface water sample collected from the seawall at low tide to document level of contamination.
RBS-SW04D	Surface water sample collected from the seawall at low tide to document level of contamination.

TABLE 2 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	DESCRIPTION/RATIONALE
RBS-SW05	Surface water sample collected from the seawall at low tide to document level of contamination.
RBS-SW05D	Surface water sample collected from the seawall at low tide to document level of contamination.
RBS-SW06	Surface water sample collected from the seawall at low tide to document level of contamination.
RBS-SW06D MS/MSD	Surface water sample collected from the seawall at low tide to document level of contamination.
RBS-SW07	Surface water sample collected from the seawall at high tide to document level of contamination.
RBS-SW07D	Surface water sample collected from the seawall at high tide to document level of contamination.
RBS-SW08	Surface water sample collected from the seawall at high tide to document level of contamination.
RBS-SW08D	Surface water sample collected from the seawall at high tide to document level of contamination.
RBS-SW09	Activity-based surface water sample collected from the area between the western end of the seawall and the first jetty to document level of contamination.
RBS-SW09D	Activity-based surface water sample collected from the area between the western end of the seawall and the first jetty to document level of contamination.
RBS-SW10	Activity-based surface water sample collected from the area between the western end of the seawall and the first jetty to document level of contamination.
RBS-SW10D	Activity-based surface water sample collected from the area between the western end of the seawall and the first jetty to document level of contamination.
RBS-SW11	Activity-based surface water sample collected from the area between the western end of the seawall and the first jetty to document level of contamination.
RBS-SW11D	Activity-based surface water sample collected from the area between the western end of the seawall and the first jetty to document level of contamination.
RBS-SW12	Activity-based surface water sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination.
RBS-SW12D	Activity-based surface water sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination.
RBS-SW13	Activity-based surface water sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination.
RBS-SW13D	Activity-based surface water sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination.
RBS-SW14	Activity-based surface water sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination.
RBS-SW14D	Activity-based surface water sample collected from the area between the third jetty and the Cheesequake Creek inlet eastern jetty to document level of contamination.
RBS-SW15	Surface water sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination.
RBS-SW15D	Surface water sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination.
RBS-SW16	Surface water sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination.
RBS-SW16D MS/MSD	Surface water sample collected from the area west of the Cheesequake Creek inlet, west of the western jetty to document level of contamination.
RBS-SW17	Surface water sample collected from Margarefs Creek north of the footbridge to document level of contamination.

TABLE 2 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	DESCRIPTION/RATIONALE
RBS-SW17D	Surface water sample collected from Margaret's Creek north of the footbridge to document level of contamination.
RBS-SW18	Surface water sample collected from Margaret's Creek north of the footbridge to document level of contamination.
RBS-SW18D	Surface water sample collected from Margaret's Creek north of the footbridge to document level of contamination.
RBS-SW19	Surface water sample collected from Margaret's Creek south of the footbridge to document level of contamination.
RBS-SW19D	Surface water sample collected from Margaret's Creek south of the footbridge to document level of contamination.
RBS-SW20	Surface water sample collected from Margaret's Creek south of the footbridge to document level of contamination.
RBS-SW20D	Surface water sample collected from Margaret's Creek south of the footbridge to document level of contamination.
RBS-SW21	Surface water sample collected from the Cheesequake Creek inlet area to document level of contamination.
RBS-SW21D	Surface water sample collected from the Cheesequake Creek inlet area to document level of contamination.
RBS-SW22	Surface water sample collected from the Cheesequake Creek inlet area to document level of contamination.
RBS-SW22D	Surface water sample collected from the Cheesequake Creek inlet area to document level of contamination.
RBS-SW23	Surface water sample collected from the Cheesequake Creek inlet area to document level of contamination.
RBS-SW23D	Surface water sample collected from the Cheesequake Creek inlet area to document level of contamination.
RBS-SW24	Surface water sample collected from the Cheesequake Creek inlet area to document level of contamination.
RBS-SW24D	Surface water sample collected from the Cheesequake Creek inlet area to document level of contamination.
RBS-SW25	Duplicate of sample RBS-SW24 for QA/QC purposes.
RBS-SW25D	Duplicate of sample RBS-SW24D for QA/QC purposes.
RBS-RIN01	Rinsate blank (decontaminated stainless-steel auger and dedicated, disposable plastic scoop and tray) for QA/QC purposes.
RBS-RIN02	Rinsate blank (decontaminated stainless-steel auger and dedicated, disposable plastic scoop and tray) for QA/QC purposes.
RBS-RIN03	Rinsate blank (decontaminated stainless-steel auger and dedicated, disposable plastic scoop and tray) for QA/QC purposes.
RBS-RIN04	Rinsate blank (decontaminated stainless-steel auger and dedicated, disposable plastic scoop and tray) for QA/QC purposes.

Temperature Blanks will be placed in each cooler with samples shipped to the laboratory.
Additional source / waste samples may be added or deleted depending on further investigation.

TABLE 3
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	SAMPLE BOTTLES	ANALYSIS	PRESERVATION
RBS-S01A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C
RBS-S01B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S01C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S02A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C
RBS-S02B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S02C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S03A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C
RBS-S03B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S03C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S04A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C
RBS-S04B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S04C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S05A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C
RBS-S05B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S05C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S06A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C
RBS-S07A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C
RBS-S07B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S07C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S08A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C
RBS-S08B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S08C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S09A	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S09B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S09C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S10A	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S10B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S10C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S11	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S12	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S13	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S14	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S15	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S16	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C

TABLE 3 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	SAMPLE BOTTLES	ANALYSIS	PRESERVATION
RBS-S17	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S18	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S19	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S20	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S21	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S22	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S23	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S24	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S25	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S26	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S27	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S28	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S29	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S30	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S31	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S32	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S33	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S34	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S35	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S36	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S37	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S38	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S39	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S40	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S41	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S42	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S43	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S44	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S45	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S46	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S47	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S48	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S49	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S50	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S51	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S52	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S53	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S54	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S55	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S56	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S57	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S58	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S59A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C

TABLE 3 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	SAMPLE BOTTLES	ANALYSIS	PRESERVATION
RBS-S59B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S59C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S60A	1 8-oz glass jar 1 8-oz glass jar	TAL Metals (including Sn) TCLP Metals	Cool, 4° C
RBS-S60B	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S60C	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S61	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S62	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S63	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S64	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S65	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S66	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S67	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S68	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S69	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S70	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S71	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S72	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S73	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S74	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S75	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S76	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S77	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S78	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S79	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S80	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S81	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S82	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S83	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S84	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S85	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S86	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-S87	1 8-oz glass jar	TAL Metals (including Sn)	Cool, 4° C
RBS-SED01	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED02	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED03	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED04	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED05	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED06	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C

TABLE 3 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	SAMPLE BOTTLES	ANALYSIS	PRESERVATION
RBS-SED07	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED08	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED09	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED10	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED11	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED12	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED13	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED14	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED15	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED16	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED17	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED18	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED19	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED20	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED21	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED22	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED23	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED24	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED25	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED26	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED27	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED28	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED29	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C

TABLE 3 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	SAMPLE BOTTLES	ANALYSIS	PRESERVATION
RBS-SED30	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED31	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED32	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED33	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED34	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED35	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED36	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED37	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED38	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED39	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED40	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED41	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED42	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED43	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED44	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED45	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED46	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED47	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED48	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED49	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED50	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED51	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED52	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C

TABLE 3 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	SAMPLE BOTTLES	ANALYSIS	PRESERVATION
RBS-SED53	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED54	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED55	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED56	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED57	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED58	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED59	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED60	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED61	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED62	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED63	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED64	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED65	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED66	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED67	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED68	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED69	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED70	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED71	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED72	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED73	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED74	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED75	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C

TABLE 3 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	SAMPLE BOTTLES	ANALYSIS	PRESERVATION
RBS-SED76	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED77	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED78	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED79	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SED80	1 8-oz glass jar 1 16-oz glass jar	TAL Metals (including Sn) Grain Size with Hydrometer	Cool, 4° C
RBS-SW01	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW01D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW02	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW02D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW03	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW03D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW04	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW04D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW05	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW05D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW06	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW06D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW07	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW07D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW08	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW08D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW09	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW09D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW10	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW10D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW11	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW11D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW12	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW12D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW13	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW13D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW14	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW14D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW15	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW15D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW16	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW16D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW17	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW17D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW18	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW18D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2

TABLE 3 (Continued)
SAMPLE ANALYSES, BOTTLE TYPES, AND PRESERVATIVES
RARITAN BAY SLAG REMOVAL SITE

SAMPLE NUMBER	SAMPLE BOTTLES	ANALYSIS	PRESERVATION
RBS-SW19	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW19D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW20	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW20D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW21	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW21D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW22	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW22D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW23	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW23D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW24	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW24D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW25	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-SW25D	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-RIN01	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-RIN02	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-RIN03	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2
RBS-RIN04	1 16-oz plastic bottle	TAL Metals (including Sn)	HNO ₃ to pH < 2